



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 09/671,715                  | 09/27/2000  | Anatoly Fabrikant    | M-10699 US          | 6087             |
| 36257                       | 7590        | 11/02/2004           | EXAMINER            |                  |
| PARSONS HSUE & DE RUNTZ LLP |             |                      | SMITH, ZANDRA V     |                  |
| 655 MONTGOMERY STREET       |             |                      | ART UNIT            | PAPER NUMBER     |
| SUITE 1800                  |             |                      |                     | 2877             |
| SAN FRANCISCO, CA 94111     |             |                      |                     |                  |

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 09/671,715             | FABRIKANT ET AL.    |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Zandra V. Smith        | 2877                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 October 2004.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30, 36-58, 62-83, 87-108, and 112-139 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-30, 36-57, 62-83, 87-108 and 112-139 is/are allowed.
- 6) Claim(s) 58 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

Applicant's representative's arguments concerning the finality of the Office Action mailed on 17 June 2004 are correct. In response the finality of the action has been withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 58 is rejected under 35 U.S.C. 102(e) as being anticipated by *Xu et al. (US 6,483,580)*.

As to **claim 58**, Xu provides a spectroscopic provides a spectroscopic scatterometer, comprising:

directing a beam of polychromatic light at a diffractive structure and detecting corresponding intensities or changes in polarization state of the diffracted beam at a number of wavelengths (col. 9, line 60-col. 10, line 5);

a system carrying out a measurement of the structure to obtain measured intensities or changes in polarization state;

a data source that supplies a library of sets of intensity or changes in polarization state data (col. 7, lines 10-40);

a processor providing one or more sets of intensity or changes in polarization state data of the diffraction at different wavelengths (col. 7, lines 7-20 and col. 9, lines 1-10) and deriving the value of one or more parameters of the diffracting structure from the measured intensity or changes in polarization state (col. 11, lines 35-60).

***Allowable Subject Matter***

Claims 1-30, 36-57, 62-83, 87-108, and 112-139 are allowable over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious, performing an optimized estimation within a neighborhood of the set of change in polarization state data using said measured changes in polarization state to arrive at a second set of values of the one or more parameters, choosing a first set of values of the one or more parameters as a function of sensitivity of the change in polarization, storing the eigenvalues and using the stored eigenvalues for obtaining the value of one or more parameters of the diffracting structure, wavelengths of the intensity or change in polarization state data in the one or more sets are chosen to reduce the influence of the properties of the one or more layers, wherein density of the intensity or change in polarization state data provided at the wavelengths in the one or more sets is chosen as a function of sensitivity of the intensity or change in polarization state data to changes in wavelengths, in combination with the rest of the limitations of the claims.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Response to Arguments***

Applicant's arguments filed 04 October 2004 have been fully considered but they are not persuasive. Applicant's representative argues that Xu fails to provide the claimed details of claim 58. It remains the examiner's opinion that Xu provides the claimed limitations, specifically Xu provides a measurement system (see fig. 1), a computer for providing a reference database using multi-modal analysis (col. 7, line 20-col. 8, line 20), and in the scatterometry mode the system may be used to determine parameters of diffractive structures (col. 11, lines 35-55). Xu fails to specifically provide a library however a reference database is a functional equivalent.

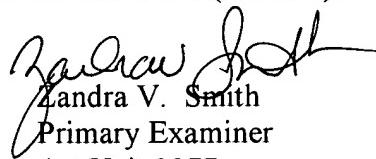
Art Unit: 2877

***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (571) 272-2429. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Zandra V. Smith  
Primary Examiner  
Art Unit 2877

October 27, 2004